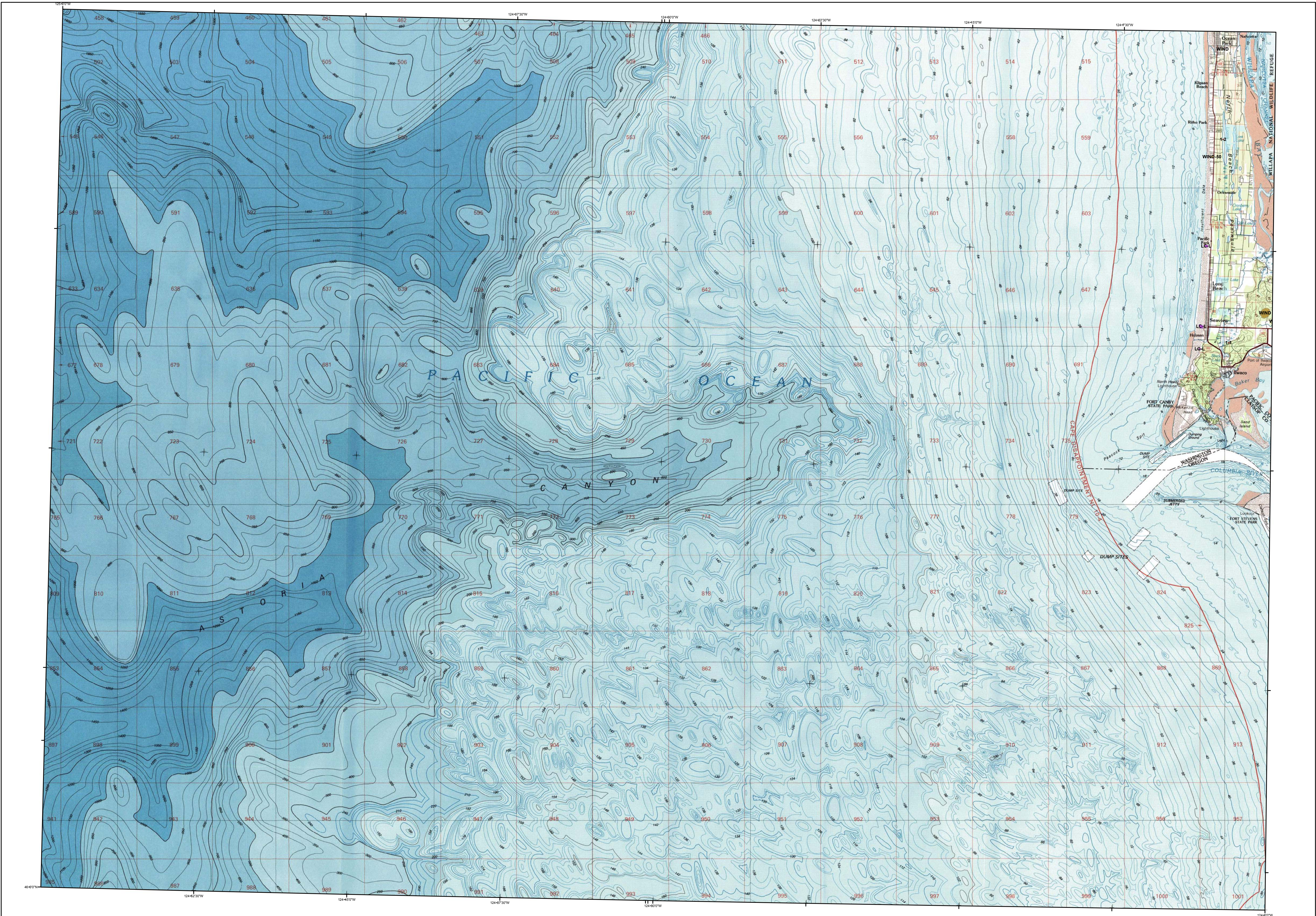


**2008 Aerial Insect and Disease Survey
Ilwaco - USGS 100K Quad E146124; 1F**



Defolators

Mortality Agents

Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host
AA	Spine spruce		1	Douglas fir beetle	Douglas fir
BB	Western blackheaded buprestid	Hemlock, spruce, true fir	2	Douglas fir engraver	Douglas fir
BP	Modoc buprestid	White fir	3	Spruce engraver	Spruce
BS	Byrrhids (light colored)	Longhorn, ponderosa pines	4	Fir engraver	True fir
CH	Chlorophaga	True fir, Douglas fir, spruce	5	Spruce bark beetle	Spruce
CG	Longhorn	Western larch	6B	Mountain pine beetle	Whitebark pine
LG	Longhorn	Western larch	6C	Mountain pine beetle	Alpine white pine
LC	Longhorn	Western larch	6K	Mountain pine beetle	Knobcone pine
LA	Longhorn	Western larch	6M	Mountain pine beetle	Alpine white pine
CH	Western larch	Western hemlock looper	6N	Mountain pine beetle	Ponderosa pine
W	Green striped forest looper	Douglas fir, Western hemlock	6P	Mountain pine beetle	Ponderosa pine
W	Western larch	Western larch	6Q	Mountain pine beetle	Ponderosa pine
LS	Black pine needle scale	Ponderosa pine	6R	Mountain pine beetle	Western white pine
BT	Bark beetle	Ponderosa pine	6W	Mountain pine beetle	Western white pine
ML	Larch budmoth	Western larch	6X	Mountain pine beetle	Ponderosa pine
W	Western larch	Western larch	6Y	Mountain pine beetle	Ponderosa pine
NS	Needle fir	Spruce	6Z	Mountain pine beetle	Western white pine
SP	Spine spruce	Spruce	7	Western white pine	Ponderosa pine
MS	Needle miner	Jeffrey pine	8	Western white pine	Ponderosa pine
W	Western larch	Jeffrey pine	9	Coville	Coville
NS	Needle miner	Knobcone pine	10	Needle miner	Shelver fir, true fir
NS	Needle miner	Conifer	11	Needle miner	Shelver fir, true fir
NK	Needle miner	Conifer	12	Needle miner	Shelver fir, true fir
NS	Needle miner	Ponderosa pine	13	Needle miner	Shelver fir, true fir
NS	Needle miner	Ponderosa pine	14	Needle miner	Shelver fir, true fir
NS	Needle miner	Western larch	15	Needle miner	Shelver fir, true fir
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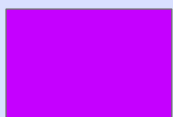


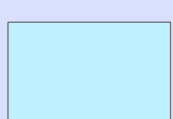
USGS 100K Quad - Ilwaco; E146124; 1F

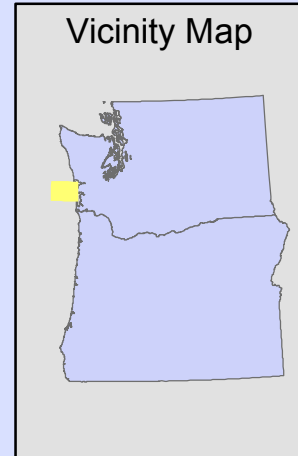
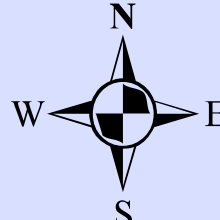
2008 Aerial Insect and Disease Detection Survey

Mapscale: 1:100,000

Date: November 6, 2008

Legend

-  Defoliating Agents
-  Mortality Agents
-  Other Damage
-  WaDNR Managed Lands



The map base was created with TOPO! (Copyright 2001, National Geographic); available online at:
www.ngmapstore.com

A data dictionary, digital copies of this map and Avicis insect and disease data are available at:
www.fs.fed.us/r6/nr/lfd/data.shtml

How the Aerial Surveys Are Conducted

Data represented on this map are based on trees visibly affected by forest insects and diseases detected and recorded during aerial survey flights conducted by the USDA Forest Service and the Washington Department of Natural Resources. Observers have just a few seconds to recognize the color difference between healthy and damaged trees of different species; diagnose causal agents correctly; estimate intensity; delineate the extent of damage; and precisely record this information on a georeferenced, digital map. Air turbulence, cloud shadows, distance from aircraft, haze, smoke and observer experience can all affect the quality of the survey. These data summaries provide an estimate of conditions on the ground and may differ from estimates derived by other methods.

The aerial survey provides information on the current status for many causal agents, and is important when examining insect activity trends by comparing historical and current survey data over large areas.

Overview surveys are a 'snap shot' in time and therefore may not be timed to accurately capture the true extent or severity of a particular disturbance activity. Specially designed surveys with modified flight patterns and timing may be conducted to more accurately delineate the extent and severity of a particular disturbance agent. Special surveys, such as Swiss needle cast surveys, are conducted when resources are available to address situations of sufficient economic, political or environmental importance.

The image is a composite of three parts. The top part features the Washington State Department of Natural Resources logo, which includes a stylized tree icon and the text "WASHINGTON STATE DEPARTMENT OF Natural Resources" and "Doug Sutherland - Commissioner of Public Lands". The middle part features the USDA Forest Service logo, which includes a shield with a tree and the text "FOREST SERVICE", "U.S. DEPARTMENT OF AGRICULTURE", and "USDA Forest Service, Region 6 Natural Resources Forest Health Protection PO Box 3623 Portland, Oregon 97208". The bottom part features a red-bordered box containing the text "*****DISCLAIMER*****" and a paragraph stating: "The insect and disease data presented should only be used as an indicator of insect and disease activity, and should be ground-checked for precise location, extent, severity and causal agent. Color coded polygons show locations where trees were recently killed or defoliated. Intensity of damage is variable and not all trees within coded polygons are dead or defoliated. The cooperators receive the right to correct, update, modify or replace GIS products without notice. Using this map for purposes other than those for which it was intended may yield inaccurate or misleading results."